L3 ANSWER 8 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:563754 BIOSIS
DOCUMENT NUMBER: PREV199799293110
TITLE: Novel gene therapeutic approaches for brain tumours.
AUTHOR(S): Couraud, Pierre-Olivier; Quinonero, Jerome; Tchelingerian, Jean-Leon; Vignais, Lionel
CORPORATE SOURCE: Inst. Cochin Genetique Moleculare, CNRS UPR 415, Paris France
SOURCE: Neuropathology and Applied Neurobiology, (1996) Vol. 22, No. 5, pp. 429-433.
ISSN: 0305-1846.
DOCUMENT TYPE: General Review
LANGUAGE: English

L3 ANSWER 16 OF 20 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 89028302 MEDLINE
DOCUMENT NUMBER: 89028302 PubMed ID: 3052803
TITLE: Quantitative studies on the transplantability of murine and human tumors into the brain and subcutaneous tissues of NCr/Sed nude mice.
AUTHOR: Zietman A L; Suit H D; Ramsay J R; Silobrcic V; Sedlacek R S
CORPORATE SOURCE: Edwin L. Steele Laboratory for Radiation Biology, Department of Radiation Medicine, Massachusetts General Hospital, Harvard Medical School 02114.
CONTRACT NUMBER: CA13311 (NCI)
SOURCE: CANCER RESEARCH, (1988 Nov 15) 48 (22) 6510-6.
Journal code: 2984705R. ISSN: 0008-5472.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198812
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19881202

AB The transplantability of experimental tumors into the brain (i.c.) and s.c. tissues of C3Hf/Sed and athymic NCr/Sed nude mice was examined using quantitative cell transplantation assays. Studies using the immune-competent C3H animals showed that brain is a more favorable site for the transplantation of syngeneic tumor than s.c. tissue and that this is true for nonimmunogenic as well as immunogenic tumors. The capacity of the brain to act as an immunological sanctuary can be overwhelmed by a strong, systemic, secondary immune response such as that evoked by the methylcholanthrene-induced sarcoma FSal. In studies performed using NCr/Sed nude mice, the allogeneic tumor MCaIV was found not to be demonstrably immunogenic. The cell dose required to transplant the tumor into 50% of recipients (TD50) could neither be increased by immunization procedures nor decreased by six Gy whole-body irradiation (WBI) prior to transplantation. Delayed-type hypersensitivity to this tumor was not expressed by nude mice after rechallenge with tumor antigen. The TD50 was again lower for i.c. than s.c. transplantation and the ratio s.c./i.c. was comparable to that found in syngeneic C3Hf/Sed hosts. Three human tumors have been similarly tested. They were: FaDu, a pharyngeal squamous carcinoma; HFSal, a fibrosarcoma; and U87, a malignant glioma. s.c. TD50 values were in all cases significantly higher than those obtained i.c. The ratios TD50 s.c./i.c. ranged from 6.4 to greater than 50 in five studies, substantially higher than those found for transplantation of murine tumors into either the syngeneic or the allogeneic recipients. Six Gy WBI reduced the s.c. TD50 for these tumors, but in each case the value remained significantly higher than that obtained i.c. 19.4 Gy WBI given in 10 equal fractions and followed by i.v. bone marrow rescue reduced further the s.c. TD50 for FaDu. NCr/Sed nude mice demonstrated cross-reacting delayed-type hypersensitivity against FaDu and HFSal. A small proportion of FaDu tumors (less than 2%) displayed a spontaneous halt in growth or even regression. When the host cell infiltrate of these tumors was analyzed, an increase was seen in the proportion of Thy 1.2 and asialo-GM1-positive cells as compared with progressively growing tumors. These data strongly suggest that a residual low level of immune reactivity exists in nude mice against

xenotransplanted human tumors. This resistance to s.c. transplantation may be diminished by WBI and is less for intracerebral implantation.

=> d ibib abs l8 2,3,8,10,13,18,20-23,25-27,29

L8 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:294301 CAPLUS
TITLE: Neural stem cells and use thereof for brain tumor therapy
INVENTOR(S): Snyder, Evan Y.; Breakefield, Xandra O.; Aboody, Karen S.; Herrlinger, Ulrich; Lynch, William P.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., Cont.-in-part of Ser. No. US 1998-168350, filed on 7 Oct 1998 which is a continu
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002045261	A1	20020418	US 2001-795675	20010228
US 5958767	A	19990928	US 1998-133873	19980814

PRIORITY APPLN. INFO.: US 1998-133873 A2 19980814
US 1998-168350 A2 19981007
US 2000-185572P P 20000228

AB The present invention is based upon a surprising finding that stem cells, more particularly neural stem cells, can migrate throughout a brain tumor and track metastatic brain tumor cells. The invention provides a method for treating brain tumors by administering genetically engineered neural stem cells in an individual affected by brain tumors. The invention also provides a method of preparing genetically engineered neural stem cells and a composition comprising genetically engineered neural stem cells in a pharmaceutically acceptable carrier.

L8 ANSWER 3 OF 34 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002627035 IN-PROCESS
DOCUMENT NUMBER: 22272589 PubMed ID: 12384520
TITLE: The Use of Interleukin 12-secreting Neural Stem Cells for the Treatment of Intracranial Glioma.
AUTHOR: Ehtesham Moneeb; Kabos Peter; Kabosova Andrea; Neuman Toomas; Black Keith L; Yu John S
CORPORATE SOURCE: Maxine Dunitz Neurosurgical Institute, Cedars-Sinai Medical Center, Los Angeles, California 90048.
SOURCE: CANCER RESEARCH, (2002 Oct 15) 62 (20) 5657-63.
Journal code: 2984705R. ISSN: 0008-5472.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20021018
Last Updated on STN: 20021018

AB Neural stem cells (NSCs) are capable of tracking migrating glioma cells. To exploit this tropism to generate an antitumor T-cell response, particularly against disseminating tumor pockets, we inoculated intracranial glioma-bearing mice with interleukin 12 (IL-12) producing NSCs. Intratumoral therapy with IL-12-secreting NSCs prolonged survival compared to treatment with nonsecretory NSCs or saline. NSCs demonstrated strong tropism for disseminating glioma, and IL-12-secreting NSC therapy was associated with enhanced T-cell infiltration in tumor microsatellites and long-term antitumor immunity. These results indicate that the use of tumor tracking NSCs represents a potent new therapeutic modality for glioma.

L8 ANSWER 8 OF 34 MEDLINE DUPLICATE 4

ACCESSION NUMBER: 2002088001 MEDLINE
DOCUMENT NUMBER: 21674997 PubMed ID: 11814563
TITLE: Intersections between neurobiology and oncology: tumor origin, treatment and repair of treatment-associated damage.
AUTHOR: Noble Mark; Dietrich Joerg
CORPORATE SOURCE: Dept of Biomedical Genetics, University of Rochester Medical Center, 601 Elmwood Avenue, Box 633, Rochester, NY 14642, USA.. mark_noble@urmc.rochester.edu
SOURCE: TRENDS IN NEUROSCIENCES, (2002 Feb) 25 (2) 103-7. Ref: 69
Journal code: 7808616. ISSN: 0166-2236.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20020130
Last Updated on STN: 20020227
Entered Medline: 20020226
AB The number of potentially intimate relationships between brain tumors and the precursor cells that contribute to normal central nervous system (CNS) development and repair now appears to be somewhat larger than would have been anticipated only a few years ago. It also appears that understanding the vulnerabilities of CNS precursor cells, and of the specific cells that they generate, might help us to reveal the biological basis for the cognitive impairment that is increasingly recognized as an adverse effect of systemic cancer therapies. Using neural stem cells as therapeutic vehicles in the treatment of brain tumors could be modified to allow repair of the damage caused by brain tumors themselves and of the neurological impairment that is frequently associated with traditional cancer treatment approaches.

L8 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:693140 CAPLUS
DOCUMENT NUMBER: 135:247195
TITLE: Systemic gene delivery vehicles for the treatment of tumors
INVENTOR(S): Snyder, Evan Y.; Aboody, Karen S.; Brown, Alice B.; Breakefield, Xandra O.
PATENT ASSIGNEE(S): Children's Medical Center Corporation, USA
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001068148	A1	20010920	WO 2001-US8273	20010315

W: AU, CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR
PRIORITY APPLN. INFO.: US 2000-189720P P 20000315
AB The present invention relates to the field of cellular and mol. therapy with modified (genetically or growth factor engineered) and unmodified stem cells (SCs). More particularly, the invention relates to a method of systemic treatment of central nervous system (CNS) and other tumors in both intracranial/intraspinal and extracranial/extraspinal sites, using neural stem cells (NSCs), a prototype for solid organ, non-hematopoietic stem cells.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 13 OF 34 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 2002255466 MEDLINE

DOCUMENT NUMBER: 21992006 PubMed ID: 11995427
TITLE: Minimally invasive procedures. Advances in image-guided delivery of drug and cell therapies into the central nervous system.
AUTHOR: Broaddus W C; Gillies G T; Kucharczyk J
CORPORATE SOURCE: Division of Neurosurgery, Virginia Commonwealth University/Medical College of Virginia, Richmond, USA.. wbroaddu@hsc.vcu.edu
CONTRACT NUMBER: CA72955-01A10004 (NCI)
NS01766 (NINDS)
SOURCE: NEUROIMAGING CLINICS OF NORTH AMERICA, (2001 Nov) 11 (4) 727-35. Ref: 47
Journal code: 9211377. ISSN: 1052-5149.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 20020509
Last Updated on STN: 20020822
Entered Medline: 20020821
AB Image-guided transparenchymal delivery of drugs is an emerging neurosurgical modality that holds the promise of delivering various agents directly across the blood-brain barrier. Potential large-scale applications for convection-enhanced delivery of drugs through the interstitial space include the delivery of chemotherapeutic agents and gene therapy vectors for the treatment of brain tumors and the delivery of neurotrophic factors and neurotransmitters for the treatment of neurodegenerative disorders. The related technique of direct intraparenchymal injection of cells provides a means for transplanting neural stem cells into the brain for the treatment of degenerative diseases. Significant advances in catheter design, infusion strategies, and imaging technology have brought these procedures into the mainstream of human clinical testing, with clinical applications potentially on the near horizon.

L8 ANSWER 18 OF 34 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 2001669892 MEDLINE
DOCUMENT NUMBER: 21572158 PubMed ID: 11716071
TITLE: Glioma migration: clues from the biology of neural progenitor cells and embryonic CNS cell migration.
AUTHOR: Dirks P B
CORPORATE SOURCE: Division of Neurosurgery, Hospital for Sick Children, University of Toronto, Ontario, Canada.. peter.dirks@sickkids.on.ca
SOURCE: JOURNAL OF NEURO-ONCOLOGY, (2001 Jun) 53 (2) 203-12. Ref: 110
Journal code: 8309335. ISSN: 0167-594X.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200205
ENTRY DATE: Entered STN: 20011122
Last Updated on STN: 20020507
Entered Medline: 20020506
AB Neural stem cells have recently come to the forefront in neurobiology because of the possibilities for CNS repair by transplantation. Further understanding of the biology of these cells is critical for making their use in CNS repair possible. It is likely that these discoveries will also have spin-offs for neuro-oncology as primary brain tumors may arise from a CNS progenitor cell. An understanding of the normal migratory ability of these cells is also likely to have a very important impact on the knowledge of brain tumor invasion.

L8 ANSWER 20 OF 34 MEDLINE
ACCESSION NUMBER: 2000207069 MEDLINE
DOCUMENT NUMBER: 20207069 PubMed ID: 10742131
TITLE: Can neural stem cells be used as therapeutic vehicles in the treatment of brain tumors?.
COMMENT: Comment on: Nat Med. 2000 Apr;6(4):447-50
AUTHOR: Noble M
CORPORATE SOURCE: Huntsman Cancer Institute, University of Utah Salt Lake City, UT 84112, USA.. mark.noble@hci.utah.edu
SOURCE: NATURE MEDICINE, (2000 Apr) 6 (4) 369-70.
Journal code: 9502015. ISSN: 1078-8956.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY DATE: Entered STN: 20000622
Last Updated on STN: 20000622
Entered Medline: 20000613

L8 ANSWER 21 OF 34 MEDLINE
ACCESSION NUMBER: 2001076243 MEDLINE
DOCUMENT NUMBER: 20524003 PubMed ID: 11070073
TITLE: Can neural stem cells be used to track down and destroy migratory brain tumor cells while also providing a means of repairing tumor-associated damage?.
COMMENT: Comment on: Proc Natl Acad Sci U S A. 2000 Nov 7;97(23):12846-51
AUTHOR: Noble M
CORPORATE SOURCE: Center for Cancer Biology, University of Rochester Medical Center, 601 Elmwood Avenue, Box 633, Rochester, NY 14642, USA.
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (2000 Nov 7) 97 (23) 12393-5.
Ref: 15
Journal code: 7505876. ISSN: 0027-8424.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010111

L8 ANSWER 22 OF 34 MEDLINE DUPLICATE 12
ACCESSION NUMBER: 2001076328 MEDLINE
DOCUMENT NUMBER: 20524089 PubMed ID: 11070094
TITLE: From the cover: neural stem cells display extensive tropism for pathology in adult brain: evidence from intracranial gliomas.
COMMENT: Comment in: Proc Natl Acad Sci U S A. 2000 Nov 7;97(23):12391-2
Comment in: Proc Natl Acad Sci U S A. 2000 Nov 7;97(23):12393-5
Erratum in: Proc Natl Acad Sci U S A 2001 Jan 16;98(2):777
AUTHOR: Aboody K S; Brown A; Rainov N G; Bower K A; Liu S; Yang W; Small J E; Herrlinger U; Ourednik V; Black P M; Breakefield X O; Snyder E Y
CORPORATE SOURCE: Departments of Neurology, Pediatrics, and Neurosurgery, Children's Hospital, Boston, MA, USA.
CONTRACT NUMBER: CA69246 (NCI)
CA86768 (NCI)
HD07466 (NICHD)

+
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (2000 Nov 7) 97 (23) 12846-51. Journal code: 7505876. ISSN: 0027-8424.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20020311
Entered Medline: 20010111
AB One of the impediments to the treatment of brain tumors (e.g., gliomas) has been the degree to which they expand, infiltrate surrounding tissue, and migrate widely into normal brain, usually rendering them "elusive" to effective resection, irradiation, chemotherapy, or gene therapy. We demonstrate that neural stem cells (NSCs), when implanted into experimental intracranial gliomas in vivo in adult rodents, distribute themselves quickly and extensively throughout the tumor bed and migrate uniquely in juxtaposition to widely expanding and aggressively advancing tumor cells, while continuing to stably express a foreign gene. The NSCs "surround" the invading tumor border while "chasing down" infiltrating tumor cells. When implanted intracranially at distant sites from the tumor (e.g., into normal tissue, into the contralateral hemisphere, or into the cerebral ventricles), the donor cells migrate through normal tissue targeting the tumor cells (including human glioblastomas). When implanted outside the CNS intravascularly, NSCs will target an intracranial tumor. NSCs can deliver a therapeutically relevant molecule-cytosine deaminase-such that quantifiable reduction in tumor burden results. These data suggest the adjunctive use of inherently migratory NSCs as a delivery vehicle for targeting therapeutic genes and vectors to refractory, migratory, invasive brain tumors . More broadly, they suggest that NSC migration can be extensive, even in the adult brain and along nonstereotypical routes, if pathology (as modeled here by tumor) is present.

L8 ANSWER 23 OF 34 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 13
ACCESSION NUMBER: 2000:817951 CAPLUS
DOCUMENT NUMBER: 134:98695
TITLE: Can neural stem cells be used to track down and destroy migratory brain tumor cells while also providing a means of repairing tumor-associated damage?
AUTHOR(S): Noble, Mark
CORPORATE SOURCE: Center for Cancer Biology, University of Rochester Medical Center, Rochester, NY, 14642, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2000), 97(23), 12393-12395 CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB The research of Aboody, K.S.; et al. (2000) is reviewed with commentary and 15 refs.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 25 OF 34 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:425352 BIOSIS
DOCUMENT NUMBER: PREV200000425352
TITLE: Neural stem cells: A new platform for delivery of gene therapy against brain tumors.
AUTHOR(S): Aboody, K. S. (1); Brown, A.; Rainov, N. G.; Bower, K. (1); Black, P. M.; Breakefield, X. O.; Snyder, E. Y. (1)
CORPORATE SOURCE: (1) Depts of Neurology, Pediatrics, and Neurosurgery, Children's Hosp and Harvard Med School, Boston, MA USA
SOURCE: Experimental Neurology, (August, 2000) Vol. 164, No. 2, pp. 468. print.

Meeting Info.: Seventh Annual Conference of the American Society for Neural Transplantation and Repair Clearwater, Florida, USA April 27-30, 2000
ISSN: 0014-4886.
DOCUMENT TYPE: Conference
LANGUAGE: English
SUMMARY LANGUAGE: English

L8 ANSWER 26 OF 34 MEDLINE DUPLICATE 15
ACCESSION NUMBER: 2000207091 MEDLINE
DOCUMENT NUMBER: 20207091 PubMed ID: 10742153
TITLE: Gene therapy of experimental brain tumors using neural progenitor cells.
COMMENT: Comment in: Nat Med. 2000 Apr;6(4):369-70
AUTHOR: Benedetti S; Pirola B; Pollo B; Magrassi L; Bruzzone M G; Rigamonti D; Galli R; Selleri S; Di Meco F; De Fraja C; Vescovi A; Cattaneo E; Finocchiaro G
CORPORATE SOURCE: Istituto Nazionale Neurologico Besta, via Celoria 11, 20133 Milano, Italy.
SOURCE: NATURE MEDICINE, (2000 Apr) 6 (4) 447-50.
Journal code: 9502015. ISSN: 1078-8956.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY DATE: Entered STN: 20000622
Last Updated on STN: 20000622
Entered Medline: 20000613
AB Glioblastomas, the most frequent and malignant of primary brain tumors, have a very poor prognosis. Gene therapy of glioblastomas is limited by the short survival of viral vectors and by their difficulty in reaching glioblastoma cells infiltrating the brain parenchyma. Neural stem/progenitor cells can be engineered to produce therapeutic molecules and have the potential to overcome these limitations because they may travel along the white matter, like neoplastic cells, and engraft stably into the brain. Retrovirus-mediated transfer of the gene for interleukin-4 is an effective treatment for rat brain glioblastomas. Here, we transferred the gene for interleukin-4 into C57BL6J mouse primary neural progenitor cells and injected those cells into established syngeneic brain glioblastomas. This led to the survival of most tumor-bearing mice. We obtained similar results by implanting immortalized neural progenitor cells derived from Sprague-Dawley rats into C6 glioblastomas. We also documented by magnetic resonance imaging the progressive disappearance of large tumors, and detected 5-bromodeoxyuridine-labeled progenitor cells several weeks after the injection. These findings support a new approach for gene therapy of brain tumors, based on the grafting of neural stem cells producing therapeutic molecules.

L8 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 16
ACCESSION NUMBER: 2000:247865 CAPLUS
TITLE: Can neural stem cells be used as therapeutic vehicles in the treatment of brain tumors?
AUTHOR(S): Noble, Mark
CORPORATE SOURCE: Huntsman Cancer Inst., Univ. of Utah, Salt Lake City, UT, 84112, USA
SOURCE: Nat. Med. (N. Y.) (2000), 6(4), 369-370
CODEN: NAMEFI; ISSN: 1078-8956
PUBLISHER: Nature America
DOCUMENT TYPE: Journal; Editorial
LANGUAGE: English
AB Unavailable
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 29 OF 34 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:65304 BIOSIS
DOCUMENT NUMBER: PREV200000065304

TITLE: A novel platform for gene therapy against brain tumors: Foreign gene expressing neural stem cells (NSCs) display tropism for intracranial gliomas.
AUTHOR(S): Aboody, Karen S. (1); Rainov, Nikolai G.; Bower, Kate A. (1); Small, Juan E. (1); Liu, Shaoxiong (1); Brown, Alice; McL. Black, Peter; Breakefield, Xandra O.; Snyder, Evan Y. (1)
CORPORATE SOURCE: (1) Depts of Neurology, Pediatrics, and Neurosurgery, Children's Hospital, Harvard Med. School, Boston, MA USA
SOURCE: Society for Neuroscience Abstracts, (1999) Vol. 25, No. 1-2, pp. 246.
Meeting Info.: 29th Annual Meeting of the Society for Neuroscience, Part 1 Miami Beach, Florida, USA October 23-28, 1999 The Society for Neuroscience
. ISSN: 0190-5295.
DOCUMENT TYPE: Conference
LANGUAGE: English

=> d abs ibib l16 2,5,8,9,11,12,16,20-22,26,29,33,40

L16 ANSWER 2 OF 42 MEDLINE
AB The inherent biology of neural stem cells (NSCs) endows them with capabilities that not only circumvent many of the limitations of other gene transfer vehicles, but that enable a variety of novel therapeutic strategies heretofore regarded as beyond the purview of neural transplantation. Most neurodegenerative diseases are characterized not by discrete, focal abnormalities but rather by extensive, multifocal, or even global neuropathology. Such widely disseminated lesions have not conventionally been regarded as amenable to neural transplantation. However, the ability of NSCs to engraft diffusely and become integral members of structures throughout the host CNS, while also expressing therapeutic molecules, may permit these cells to address that challenge. Intriguingly, while NSCs can be readily engineered to express specified foreign genes, other intrinsic factors appear to emanate spontaneously from NSCs and, in the context of reciprocal donor-host signaling, seem to be capable of neuroprotective and/or neuroregenerative functions. Stem cells additionally have the appealing ability to 'home in' on pathology, even over great distances. Such observations help to advance the idea that NSCs - as a prototype for stem cells from other solid organs - might aid in reconstructing the molecular and cellular milieu of maldeveloped or damaged organs.
ACCESSION NUMBER: 2002290740 MEDLINE
DOCUMENT NUMBER: 22027826 PubMed ID: 12032707
TITLE: Global gene and cell replacement strategies via stem cells.
AUTHOR: Park K I; Ourednik J; Ourednik V; Taylor R M; Aboody K S; Auguste K I; Lachyankar M B; Redmond D E; Snyder E Y
CORPORATE SOURCE: Department of Neurology, Harvard Medical School, Harvard Institutes of Medicine, Beth Israel-Deaconess Medical Center, Boston, MA 02115, USA.
SOURCE: GENE THERAPY, (2002 May) 9 (10) 613-24. Ref: 67
Journal code: 9421525. ISSN: 0969-7128.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200206
ENTRY DATE: Entered STN: 20020529
Last Updated on STN: 20020611
Entered Medline: 20020610

L16 ANSWER 5 OF 42 MEDLINE
AB The induction of spongiform myeloencephalopathy by murine leukemia viruses is mediated primarily by infection of central nervous system (CNS)

microglia. In this regard, we have previously shown that CasBrE-induced disease requires late, rather than early, virus replication events in microglial cells (W. P. Lynch et al., J. Virol. 70:8896-8907, 1996). Furthermore, neurodegeneration requires the presence of unique sequences within the viral env gene. Thus, the neurodegeneration-inducing events could result from microglial expression of retroviral envelope protein alone or from the interaction of envelope protein with other viral structural proteins in the virus assembly and maturation process. To distinguish between these possible mechanisms of disease induction, we engineered the engraftable neural stem cell line C17-2 into packaging/producer cells in order to deliver the neurovirulent CasBrE env gene to endogenous CNS cells. This strategy resulted in significant CasBrE env expression within CNS microglia without the appearance of replication competent virus. CasBrE envelope expression within microglia was accompanied by increased expression of activation markers F4/80 and Mac-1 (CD11b) but failed to induce spongiform neurodegenerative changes. These results suggest that envelope expression alone within microglia is not sufficient to induce neurodegeneration. Rather, microglia-mediated disease appears to require neurovirulent Env protein interaction with other viral proteins during assembly or maturation. More broadly, the results presented here prove the efficacy of a novel method by which neural stem cell biology may be harnessed for genetically manipulating the CNS, not only for studying neurodegeneration but also as a paradigm for the disseminated distribution of retroviral vector-transduced genes.

ACCESSION NUMBER: 1999329209 MEDLINE
DOCUMENT NUMBER: 99329209 PubMed ID: 10400782
TITLE: Neural stem cells as engraftable packaging lines can mediate gene delivery to microglia: evidence from studying retroviral env-related neurodegeneration.
AUTHOR: Lynch W P; Sharpe A H; Snyder E Y
CORPORATE SOURCE: Department of Microbiology/Immunology, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio 44272, USA.
CONTRACT NUMBER: NS31065 (NINDS)
NS34247 (NINDS)
NS37614 (NINDS)
+
SOURCE: JOURNAL OF VIROLOGY, (1999 Aug) 73 (8) 6841-51.
Journal code: 0113724. ISSN: 0022-538X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; AIDS
ENTRY MONTH: 199908
ENTRY DATE: Entered STN: 19990910
Last Updated on STN: 19990910
Entered Medline: 19990824

L16 ANSWER 8 OF 42 MEDLINE
ACCESSION NUMBER: 97146835 MEDLINE
DOCUMENT NUMBER: 97146835 PubMed ID: 8993691
TITLE: Potential of neural "stem-like" cells for gene therapy and repair of the degenerating central nervous system.
AUTHOR: Snyder E Y; Park K I; Flax J D; Liu S; Rosario C M; Yandava B D; Aurora S
CORPORATE SOURCE: Department of Neurology (Division of Neuroscience), Harvard Medical School, Boston, Massachusetts, USA.
CONTRACT NUMBER: NS33852 (NINDS)
NS34247 (NINDS)
SOURCE: ADVANCES IN NEUROLOGY, (1997) 72 121-32. Ref: 69
Journal code: 0367524. ISSN: 0091-3952.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 199704
ENTRY DATE: Entered STN: 19970414
Last Updated on STN: 19970414
Entered Medline: 19970401

L16 ANSWER 9 OF 42 MEDLINE
AB Many methods of gene transfer to the brain are under study. One employs a neural stem cell based strategy. Transplanting neural progenitor cells that intrinsically secrete missing or therapeutic gene products, or are genetically engineered ex vivo to do so, may provide a strategy for long-term treatment of central nervous system manifestations of a number of neurogenetic diseases. Multipotent neural progenitors or stem cells (or cells that mimic their behavior) are capable of differentiating along multiple central nervous system cell-type lineages. They can engraft as integral members of normal structures throughout the host central nervous system without disturbing other neurobiological processes. They can also be easily genetically manipulated ex vivo. By exploiting their basic biological properties, these cells may be able to deliver therapeutic gene products in a sustained, direct, and perhaps regulated fashion throughout the central nervous system. Furthermore, although they may disseminate these gene products throughout the brain, they nevertheless restrict that distribution to only the central nervous system. Thus, these vehicles may overcome many of the limitations of viral and non-neural cellular vectors, as well as pharmacologic and genetic interventions. The feasibility of this neural stem cell-based strategy has been demonstrated by correcting the widespread central nervous system pathology of a murine model of a prototypical inherited neurodegenerative disease, mucopolysaccharidosis type VII. These studies have helped to establish the use of such cells as a paradigm for transferring other molecules of therapeutic or developmental interest throughout the central nervous system at many ages.
ACCESSION NUMBER: 96377132 MEDLINE
DOCUMENT NUMBER: 96377132 PubMed ID: 8782981
TITLE: Central nervous system cell transplantation: a novel therapy for storage diseases?.
AUTHOR: Snyder E Y; Wolfe J H
CORPORATE SOURCE: Department of Neurology, Harvard Medical School, Children's Hospital, Boston, Massachusetts 02115, USA.
CONTRACT NUMBER: NS29390 (NINDS)
NS33852 (NINDS)
NS34247 (NINDS)
+
SOURCE: CURRENT OPINION IN NEUROLOGY, (1996 Apr) 9 (2) 126-36.
Ref: 103
Journal code: 9319162. ISSN: 1350-7540.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199612
ENTRY DATE: Entered STN: 19970128
Last Updated on STN: 19970128
Entered Medline: 19961204

L16 ANSWER 11 OF 42 CAPLUS COPYRIGHT 2002 ACS
AB A review. Neural stem cells (NSCs) may provide a novel approach to reconstituting brains damaged by ischemic injury. The transplantation of exogenous NSCs may, in fact, augment a natural self-repair process in which the damaged CNS "attempts" to mobilize its own pool of stem cells. Providing addnl. NSCs and trophic factors may optimize this response. Preliminary data in animal models of both pediatric and adult stroke lends support to these hypotheses. Recent studies suggest that NSCs may be a substitute for fetal tissue in transplantation paradigms as well as a vehicle for gene delivery. The basic biol. of NSCs appears to endow them with characteristics that make them ideal vehicles for gene therapy as well as

agents of repair. These biol. characteristics include the ability of transplanted cells to migrate, to integrate into the neural circuitry, and to differentiate into multiple cell types. NSCs may have the ability to reestablished neural circuits that have degenerated as a result of ischemic injury. Importantly, migration of NSCs may be stimulated by neurodegenerative environments. For these reasons, there has been a growing interest in the therapeutic potential of NSCs and progenitor cells following cerebral ischemic injury.

ACCESSION NUMBER: 2001:678503 CAPLUS
DOCUMENT NUMBER: 136:230146
TITLE: Harnessing neural stem cell biology to compensate for cerebral ischemic injury
AUTHOR(S): Park, K. I.; Tate, B. A.; Ren, J. M.; Sietsma, D.; Marciniak, A.; Finklestein, S. P.; Snyder, E. Y.
CORPORATE SOURCE: Departments of Pediatrics, Neurosurgery & Neurology, Children's Hospital, Boston, MA, USA
SOURCE: Pharmacology of Cerebral Ischemia, [International Symposium on the Pharmacology of Cerebral Ischemia], 8th, Marburg, Germany, July 23-26, 2000 (2000), 491-498. Editor(s): Krieglstein, Josef; Klumpp, Susanne. Medpharm Scientific Publishers: Stuttgart, Germany.
CODEN: 69BUXN
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 12 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:410269 BIOSIS
DOCUMENT NUMBER: PREV200200410269
TITLE: Transplantation of glial cell line-derived neurotrophic factor (GDNF) expressing neural stem cells (NSCs) into hypoxic-ischemic (HI) brain injury.
AUTHOR(S): Park, K. I. (1); Arenas, E.; Snyder, E. Y.
CORPORATE SOURCE: (1) Depts. of Pediatrics and Pharmacology, College of Medicine, Yonsei University, Yong-Dong Severance Hospital, Seoul, 135-270 South Korea
SOURCE: Developmental Brain Research, (31 March, 2002) Vol. 134, No. 1-2, pp. A46. http://www.elsevier.com/homepage/sah/bres/doc/journal4.htm. print.
Meeting Info.: 4th Brain Research Interactive Symposium on Stem Cells in the Mammalian Brain San Diego, CA, USA November 08-10, 2001
ISSN: 0165-3806.
DOCUMENT TYPE: Conference
LANGUAGE: English

L16 ANSWER 16 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Neural stem cells (NSCs) have been proposed as tools for treating neurodegeneration because of their capacity to give rise to cell types appropriate to the structure in which they are grafted. In the present work, we explore the ability of NSCs to stably express transgenes and locally deliver soluble molecules with neuroprotective activity, such as glial cell line-derived neurotrophic factor (GDNF). NSCs engineered to release GDNF engrafted well in the host striatum, integrated and gave rise to neurons, astrocytes, and oligodendrocytes, and maintained stable high levels of GDNF expression for at least 4 months. The therapeutic potential of intrastriatal GDNF-NSCs grafts was tested in a mouse 6-hydroxydopamine model of Parkinson's disease. We found that GDNF-NSCs prevented the degeneration of dopaminergic neurons in the substantia nigra and reduced behavioral impairment in these animals. Thus, our results demonstrate that NSCs efficiently express therapeutic levels of GDNF in vivo, suggesting a use for NSCs engineered to release neuroprotective molecules in the treatment of neurodegenerative disorders, including Parkinson's disease.
ACCESSION NUMBER: 2001:520872 BIOSIS

DOCUMENT NUMBER: PREV200100520872
TITLE: Neuroprotection through delivery of glial cell line-derived neurotrophic factor by neural stem cells in a mouse model of Parkinson's disease.
AUTHOR(S): Akerud, Peter; Canals, Josep M.; Snyder, Evan Y.; Arenas, Ernest (1)
CORPORATE SOURCE: (1) Laboratory of Molecular Neurobiology, Department of Medical Biochemistry and Biophysics, Karolinska Institute, Berzeliusvag 3, S-17177, Stockholm: snyder@a1.tch.harvard.edu, ernest@cajal.mbb.ki.se Sweden
SOURCE: Journal of Neuroscience, (October 15, 2001) Vol. 21, No. 20, pp. 8108-8118. print.
ISSN: 0270-6474.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

L16 ANSWER 20 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB To test the idea that genetically engineered cells can rescue axotomized neurons, we transplanted fibroblasts and immortalized neural stem cells (NSCs) modified to express neurotrophic factors into the injured spinal cord. The neurotrophin-3 (NT-3) or nerve growth factor (NGF) transgene was introduced into these cells using recombinant retroviral vectors containing an internal ribosome entry site (IRES) sequence and the beta-galactosidase or alkaline phosphatase reporter gene. Bioassay confirmed biological activity of the secreted neurotrophic factors. Clarke's nucleus (CN) axons, which project to the rostral spinal cord and cerebellum, were cut unilaterally in adult rats by T8 hemisection. Rats received transplants of fibroblasts or NSCs genetically modified to express NT-3 or NGF and a reporter gene, only a reporter gene, or no transplant. Two months postoperatively, grafted cells survived at the hemisection site. Grafted fibroblasts and NSCs expressed a reporter gene and immunoreactivity for the NGF or NT-3 transgene. Rats receiving no transplant or a transplant expressing only a reporter gene showed a 30% loss of CN neurons in the L1 segment on the lesioned side. NGF-expressing transplants produced partial rescue compared with hemisection alone. There was no significant neuron loss in rats receiving grafts of either fibroblasts or NSCs engineered to express NT-3. We postulate that NT-3 mediates survival of CN neurons through interaction with trkC receptors, which are expressed on CN neurons. These results support the idea that NT-3 contributes to long-term survival of axotomized CN neurons and show that genetically modified cells rescue axotomized neurons as efficiently as fetal CNS transplants.
ACCESSION NUMBER: 2001:478519 BIOSIS
DOCUMENT NUMBER: PREV200100478519
TITLE: Transplants of cells genetically modified to express neurotrophin-3 rescue axotomized Clarke's nucleus neurons after spinal cord hemisection in adult rats.
AUTHOR(S): Himes, B. Timothy (1); Liu, Yi; Solowska, Joanna M.; Snyder, Evan Y.; Fischer, Itzhak; Tessler, Alan
CORPORATE SOURCE: (1) Department of Neurobiology and Anatomy, MCP Hahnemann University, 2900 Queen Lane, Philadelphia, PA, 19129: bthimes@drexel.edu USA
SOURCE: Journal of Neuroscience Research, (September 15, 2001) Vol. 65, No. 6, pp. 549-564. print.
ISSN: 0360-4012.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

L16 ANSWER 21 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB We postulated that hNSCs in the ricin-lesioned monkey spinal cord might respond to neurodegenerative cues & differentiate into neural cells. To test it, unilateral intrasciatic injections were done in adult St. Kitts green monkeys with either ricin (n=11) or saline (n=2). hNSCs were pre-labeled with BrdU and DiI, & stereotactically implanted in the central canal region 2w post ricin. Weekly measurements of function & calf size were done using ANOVA. After 2 or 6m, spinal cords were processed histopathologically. Scores were significantly worse for locomotion, toe-, and foot-posture; calves were smaller; & EMG showed persistent denervation

potentials in ricin-treated compared with control legs. Saline-injected animals yielded no impairment. Pathological exam showed 20-80% MN loss in ipsilateral sciatic spinal cord regions & grouped atrophy in ipsilateral gastrocnemii. hNSCs engraftment & migration to the motoneuron-deficient ventral horn was observed. Some hNSCs assumed a morphology, size, & ChAT-positivity suggestive of motoneurons. Thus, transplanted hNSCs can integrate within the primate spinal cord, show tropism for degeneration within MN-impoverished ventral horns, & differentiate into cells suggestive of neuron & glia.

ACCESSION NUMBER: 2001:478308 BIOSIS
DOCUMENT NUMBER: PREV200100478308
TITLE: Human neural stem cell (hNSCs) transplantation in a primate model of motor neuron disease.
AUTHOR(S): Teng, Y. (1); Erkmen, K. (1); Redmond, D. E., Jr.; Shefner, J.; De Girolami, U.; He, Z.; Ensrud, E. (1); Kosaras, B. (1); Sidman, R. L.; Brown, R. H., Jr.; Rothstein, J. H.; Snyder, E. Y. (1)
CORPORATE SOURCE: (1) Neurosurg, Harvard/BWH, Boston, MA USA
SOURCE: Society for Neuroscience Abstracts, (2001) Vol. 27, No. 1, pp. 291. print.
Meeting Info.: 31st Annual Meeting of the Society for Neuroscience San Diego, California, USA November 10-15, 2001
ISSN: 0190-5295.
DOCUMENT TYPE: Conference
LANGUAGE: English
SUMMARY LANGUAGE: English

L16 ANSWER 22 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Subclones of human and murine neural stem cells (NSCs) have been investigated for their ability to differentiate into mature neural cells as well as their tropic properties and potential to deliver gene products to regions of cell death. Using the superoxide dismutase (SOD1) transgenic mouse G93A as a model of familial amyotrophic lateral sclerosis (ALS), we delivered murine and human NSCs via intracisternal injections into the CSF of five-week-old mice. Motor activity was measured using a rotorod apparatus at weekly intervals. At the end stage of disease, 19 weeks, mice were sacrificed for pathologic examination. Subclones of NSCs were found engrafted within the parenchyma of brainstem and spinal cord and expressed the neuronal marker betaIII-tubulin. Migration of NSCs appears to occur on the external surface of penetrating vessels into the parenchyma. This demonstrates that subclones of neural stem cells are capable of migration into the CNS parenchyma in young adult animals after CSF injection. Furthermore, these cells survive long-term and possess neuronal markers. This method of delivery in mature animals has potential therapeutic implications for clinical use in adult-onset neurodegenerative diseases such as ALS.

ACCESSION NUMBER: 2001:109249 BIOSIS
DOCUMENT NUMBER: PREV200100109249
TITLE: Transplanted neural stem cells are capable of engraftment and differentiation in transgenic mutant SOD1 mice.
AUTHOR(S): Maragakis, N. J. (1); Teng, Y. D.; Kerr, D.; Kim, B.; Frank, K.; Mitchell, R. S.; Brown, R. H., Jr.; Snyder, E. Y.; Rothstein, J. D.
CORPORATE SOURCE: (1) Johns Hopkins Univ, Baltimore, MD USA
SOURCE: Society for Neuroscience Abstracts, (2000) Vol. 26, No. 1-2, pp. Abstract No.-668.3. print.
Meeting Info.: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000
Society for Neuroscience
. ISSN: 0190-5295.
DOCUMENT TYPE: Conference
LANGUAGE: English
SUMMARY LANGUAGE: English

L16 ANSWER 26 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Transplantation of NSCs into HI brain injury showed robust engraftment &

foreign gene expression within the ischemic area, migration towards the injury site, & differentiation into neural cells lost to injury. Although NSCs appear to have the capacity to repopulate HI-injured brain, their ability to reform connections may be limited by the vast amount of parenchymal loss. To address this need, we hypothesized that highly porous PGA scaffolds, if co-transplanted with NSCs into the infarction cavity might facilitate reformation of structural & funtional circuits. To test this, clone C17.2 stem cells were seeded onto PGA in culture. The cells grew robustly & migrated readily throughout the structure, adhering to PGA fibers. After the NSCs/PGA unit was implanted into the infarction cavity of P14 mice, NSCs had completely impregnated PGA matrix & the unit refilled the cavity, becoming incorporated into animal's cerebrum & even becoming vascularized by the host. When immunostained, many very long, complex neurofilament (NF)+ donor-derived neuronal processes run the length of the disappearing matrix & host-derived NF+ fibers enter the matrix, conceivably making contact with donor-derived neurons. In the cortical penumbra, many host neurons showed more neurites extensions & arborizations compared to those in the contralateral grossly intact cortex. These may suggest that NSCs-PGA complex facilitate even further the differentiation of host & donor neurons, & enhance the ingrowth/outgrowth of such cells to facilitate reformation of structural/functional cortical tissue.

ACCESSION NUMBER: 2001:88285 BIOSIS
DOCUMENT NUMBER: PREV200100088285
TITLE: Transplantation of neural stem cells seeded in biodegradable polyglycolic acid scaffolds into hypoxic-ischemic brain injury.
AUTHOR(S): Park, K. (1); Lavik, E.; Teng, Y.; Snyder, E.
CORPORATE SOURCE: (1) Yonsei Univ Coll Med, Seoul South Korea
SOURCE: Society for Neuroscience Abstracts, (2000) Vol. 26, No. 1-2, pp. Abstract No.-327.9. print.
Meeting Info.: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000 Society for Neuroscience
. ISSN: 0190-5295.
DOCUMENT TYPE: Conference
LANGUAGE: English
SUMMARY LANGUAGE: English

L16 ANSWER 29 OF 42 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:425276 BIOSIS
DOCUMENT NUMBER: PREV200000425276
TITLE: From mice to primates: Getting closer to neural stem cell-based therapy of human neurological diseases.
AUTHOR(S): Ourednik, J. (1); Ourednik, V. (1); Teng, Y. (1); Kosaras, B.; Sidman, R. L.; Schachner, M.; Redmond, D. E., Jr.; Snyder, E. Y. (1)
CORPORATE SOURCE: (1) Dept of Neurology, Children's Hospital, Harvard Medical School, Boston, MA USA
SOURCE: Experimental Neurology, (August, 2000) Vol. 164, No. 2, pp. 444-445. print.
Meeting Info.: Seventh Annual Conference of the American Society for Neural Transplantation and Repair Clearwater, Florida, USA April 27-30, 2000
ISSN: 0014-4886.
DOCUMENT TYPE: Conference
LANGUAGE: English
SUMMARY LANGUAGE: English

L16 ANSWER 33 OF 42 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
AB The ability to differentiate neural stem cells (NSCs) into dopamine neurons is fundamental to their role in cell replacement therapies for neurodegenerative disorders such as Parkinson's disease. We show here that when a clonal line (C17.2) of undifferentiated NSCs is transplanted into the intact or 6-hydroxydopamine-lesioned striatum, cells withdraw from the cell cycle (BrdU(-)), migrate extensively in the host striatum, and express markers associated with neuronal (.beta.-tubulin III(+), NSE(+), NeuN(+) but not glial (GFAP(-), MBP(-), A2B5(-)) differentiation. Importantly, by 2-5 weeks postgrafting,

in the majority of these transplants, nearly all engrafted cells express the dopamine-synthesizing enzymes tyrosine hydroxylase and aromatic L-amino decarboxylase, sometimes resulting in changes in motor behavior. In contrast, no NSCs stain for dopamine-.beta.-hydroxylase, choline acetyltransferase, glutamic acid decarboxylase, or serotonin. We conclude that, following transplantation into the intact or 6-hydroxydopamine-lesioned rat, the adult brain contains intrinsic cues sufficient to direct the specific expression of dopaminergic traits in immature multipotential neural stem cells. .COPYRGT. 2002 Elsevier Science (USA).

ACCESSION NUMBER: 2002423620 EMBASE

TITLE: Neural stem cells spontaneously express dopaminergic traits after transplantation into the intact or 6-hydroxydopamine-lesioned rat.

AUTHOR: Yang M.; Stull N.D.; Berk M.A.; Snyder E.Y.; Iacovitti L.

CORPORATE SOURCE: L. Iacovitti, Department of Neurology, Thomas Jefferson Univ. Med. College, College Building, 1025 Walnut Street, Philadelphia, PA 19107, United States. lorraine.iacovitti@mail.tju.edu

SOURCE: Experimental Neurology, (2002) 177/1 (50-60). Refs: 34 ISSN: 0014-4886 CODEN: EXNEAC

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 008 Neurology and Neurosurgery
029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

L16 ANSWER 40 OF 42 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.

AB Stable clones of neural stem cells (NSCs) have been isolated from the human fetal telencephalon. These self-renewing clones give rise to all fundamental neural lineages in vitro. Following transplantation into germinal zones of the newborn mouse brain they participate in aspects of normal development, including migration along established migratory pathways to disseminated central nervous system regions, differentiation into multiple developmentally and regionally appropriate cell types, and nondisruptive interspersion with host progenitors and their progeny. These human NSCs can be genetically engineered and are capable of expressing foreign transgenes in vivo. Supporting their gene therapy potential, secretory products from NSCs can correct a prototypical genetic metabolic defect in neurons and gila in vitro. The human NSCs can also replace specific deficient neuronal populations. Cryopreservable human NSCs may be propagated by both epigenetic and genetic means that are comparably safe and effective. By analogy to rodent NSCs, these observations may allow the development of NSC transplantation for a range of disorders.

ACCESSION NUMBER: 1998382307 EMBASE

TITLE: Engraftable human neural stem cells respond to developmental cues, replace neurons, and express foreign genes.

AUTHOR: Flax J.D.; Aurora S.; Yang C.; Simonin C.; Wills A.M.; Billinghurst L.L.; Jendoubi M.; Sidman R.L.; Wolfe J.H.; Kim S.U.; Snyder E.Y.

CORPORATE SOURCE: E.Y. Snyder, Department of Neurology, Children's Hospital, Harvard Medical School, Boston, MA, United States. Snyder@A1.TCH.Havard.edu

SOURCE: Nature Biotechnology, (1998) 16/11 (1033-1039). Refs: 41 ISSN: 1087-0156 CODEN: NABIF

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 008 Neurology and Neurosurgery
021 Developmental Biology and Teratology

LANGUAGE: English

SUMMARY LANGUAGE: English